

**EPA Review Comments****Sediment Trap Sampling Project-Specific HASP Addendum dated March 21, 2018****EPA Review Comments: March 30, 2018**

<b>Comment No.</b>	<b>Page (PDF)</b>	<b>Comments</b>
1	Page 12 and 82	Task hazard assessments in Attachment 1 - Pre-Job Hazard Assessment and the Site Safety Health and Diving Operations Plan, Section 6.1 - Protocols & Procedures for Surface-Diving Emergencies & Unplanned Events are inadequate for hazards related to contaminated diving operations. Example dive safety plans were provided to the Pre-RD group which included contaminated water diving aspects. All of these should be included and discussed during daily safety briefings.
2	Page 12	Inhalation of VOCs from contaminated sediment must be listed as a potential health hazard for any work in the exclusion zone or contamination reduction zone on the research vessel and the field processing laboratory. According to table 8.3 in the Programmatic HAZWOPER Health and Safety Plan (HASP), the breathing zone will be monitored continuously while sediment trap collection is performed on the vessel.
3	Page 12	For any work in the exclusion zone or contaminant reduction zone, rubber boots (or equivalent material capable of decontamination) with a safety toe are required. Leather boots will not be acceptable for this application.
4	Page 12	The diver must have a slick rubber or trilam suit capable of contaminated water diving (CWD) decon, (neoprene not allowed for gloves, suit or neck dam) along with a full face mask that sits directly on decon compatible hood (or helmet mating to the suit, or less ideal, a latex neck dam), and decon compatible gloves. Neoprene neck dams will not be allowed on the project -they leak substantially and may not be used.
5	Page 13	The listed items are procedures not PPE. The list of PPE should be consistent with that described in the sodium azide SDS (Attachment 6).
6	Page 14	Additional information should be provided in this section in the event that sediment with non-aqueous phase liquid (NAPL) is encountered when retrieving sediment traps or on diver's suits. In those situations, decontamination procedures and management of investigation-derived waste will be different from what is described here.
7	Page 14	See previous comment on rubber safety boots.

Comment No.	Page (PDF)	Comments
8	Page 18	Training specified in Attachment 1, Pre-JHA Steps 1 -3 is inadequate. All divers and workers in the exclusion zone (EZ) or contamination reduction zone (CRZ) must have taken 40 hour 1910.120 HAZWOPER to participate in these activities—please update HASP accordingly. 40-hour HAZWOPER for this work was a requirement of the Programmatic HASP.
9	Page 32	General Comment: The Job Safety Analysis (JSA) in this section at times differs with the Pre-Job Hazard Assessment presented in the AECOM HASP Addendum. Workers should review both the AECOM and Gravity health and safety plans, and in any instances that safety procedures are not the same, the more protective measure shall be taken.
10	Page 35	As described in the AECOM Programmatic HAZWOPER Health and Safety Plan (HASP) and the HASP Addendum for sediment traps, Type III or Type V PFDs are acceptable for over-water work (see Section 3.2.5 below). Type III and Type V PFDs allow for easier movement and are suitable for applications during work at Portland Harbor.
11	Page 35	Gravity should specify which of the USCG recommended equipment will be included on board the vessel. If any of the recommended equipment from this list will be omitted, Gravity should specify why it is not necessary. EPA strongly prefers all USCG recommended equipment be included in the vessel.
12	Page 44	As described in the Programmatic HASP, 40 degrees F was established as the minimum working temperature for this project (refer to the general comment at the start of Section 3.0)
13	Page 46	Table 4-4 should describe air monitoring during sampling, outside of boat house.
14	Page 49	Figure 5 hazard zone figures are inadequate. A hazard zone figure must be included with decon discussion that includes the EZ, CRZ, and support zone (SZ). If boat changeups are possible, include multiple figures specific to each boat. Acceptable example figures at attached. EPA oversight will be stopping work if the hazard zones are not adhered to (e.g. lunch in the CRZ or EZ, moving equipment thru zones without decon). Wind direction must be specified and configuration adjusted if the wind changes to avoid splashes outside of the EZ. These zones should be clearly identified on all vessels. The hazard zones and relative wind direction should be described during health and safety meetings.
15	Page 55	Hospital Information and routes should be identified in the final HASP Addendum, including addresses and maps with preferred routes.

Comment No.	Page (PDF)	Comments
16	Page 59	Offshore medical certifications are not included. The final HASP Addendum should at a minimum identify medical certifications for each field personnel (i.e., CPR, First Aid, AED, etc.)
17	Page 68	ADCI consensus standard reference shall be updated to the most current version (6.2) <a href="https://www.adc-int.org/content.asp?contentid=173">https://www.adc-int.org/content.asp?contentid=173</a>
18	Page 69	Refer to comment regarding rubber safety toe boots on page 14 of the AECOM Pre-Job Hazard Assessment.
19	Page 70	Site Safety Health and Diving Operations Plan, Section 2.1 - Scope of Work. Sediment trap sampling field sampling plan (FSP) excerpt must be provided for the dive brief for EPA review and included in the dive plan. Global divers are not scientists and the dive plan/dive brief must be pre-reviewed by EPA to ensure that instructions will provide for minimum data quality needs.
20	Page 70	This title is not correct for this project and should be updated in the final HASP Addendum.
21	Page 70	The diver-worn emergency gas supply should have a minimum of 30 cubic feet of air. Emergency gas supply size for bailout must be specified. A minimum of 30 cubic feet of air is needed for shallow conditions but this must be upgraded to 50 cubic of air if planned dive depth exceeds 30 FSW/gauge depth.
22	Page 70	A blue and white alpha flag and red and white recreational flag are required. These flags should be deployed before starting diving activities, and flown for the duration of diving activities. The alpha flag must be 1 meter x 1 meter per USCG regulations and displayed with a recreational flag while at anchor with surface supplied divers in water.
23	Page 70	Diver decontamination procedures must be included in the Diving Operations Plan. These procedures must describe in detail the methods, responsibilities, locations, and safety requirements during decontamination. EPA's expectation is thorough potable water decon (not river water) which has been shown to be effective in removing sediment particles from appropriate PPE and better than 95% effective in removal of pathogens. Diver decontamination should occur in the -- in the exclusion zone/swim step/drop bow.
24	Page 71	Maximum anticipated bottom times should be included in this section.
25	Page 71	Section 2.4 - Diver Ingress and Egress must specific emergency egress for an unconscious diver, which may entail use of a davit or crane.
26	Page 72	The pre-dive safety inspections should include communications tests with divers to ensure diver communications systems are fully functional.

Comment No.	Page (PDF)	Comments
27	Page 79	Section 5.2.1 - Diver Hyperbaric Injury is inadequate. The nearest chamber capable of treating an injured diver must be identified (e.g. Providence). Seattle locations may be listed as a backup as time allows.
28	Page 79	Section 5.1.2 - Activating Emergency Service is too vague. A specific means of primary call to EMS must be stated (e.g. EMS will be activated via a call on channel 16 (primary), with 911 as a backup via cell phone).
29	Page 99	Site Safety Health and Diving Operations Plan, Section 9 - Site Specific Health & Safety Plan Acknowledgement Sheet. 11. Before initiating diving, include and provide the signature page to EPA oversight staff that all divers have read and understand the dive plan.